

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appl. No.: 10/827480 Confirmation No.: 3304
Applicant: FECHT, *et al.*
Filed: 04/19/2004
TC/A.U.: 1612
Examiner: Roberts, Lezah
Docket No.: DC4998 CIP1
Customer No.: 00137
Date: 6 December 2010
For: Substituted Hydrocarbyl Functional Siloxanes for Household, Health,
and Personal Care Applications

Commissioner for Patents
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APPEAL BRIEF

In response to the 05-11-2010 final rejection of US Application 10/827,480, and further to Applicant's Notice of Appeal dated 08-05-2010, Applicant submits this Appeal Brief.

Table of Contents

The Real Party in Interest is identified at p. 3.

Related Appeals and Interferences are identified at p. 3.

Status of Claims is at p. 3.

Status of Amendments is at p. 4.

Summary of the Claimed Subject Matter begins at p. 5.

Grounds of Rejection to be Reviewed on Appeal are at p. 7.

Argument begins at p. 7.

Claims Appendix begins at p. 20.

Evidence Appendix begins at p. 22.

Related Proceedings Appendix begins at p. 22.

Real Party in Interest

The real party in interest in this appeal is Dow Corning Corporation, the assignee of the above application.

Related Appeals and Interferences

Appellants are not aware of any related appeals or interferences that will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

Status of Claims

Claims 1-14 were originally filed in this application. Claims 1-14 were subjected to a Restriction and Election of Species Requirement in an Office Action dated 09/27/2007. In response (dated 10-26-2007 and 1-21-2008), Applicants canceled claims 8 and 10. Applicants also withdrew claims 13 and 14. Applicants elected the species where hydrocarbyl group is defined as R¹ having the formula $-(CH_2)_3OCH_2CH_2OH$.

In a Response dated 06-10-2008, claim 1 was amended to limit the organopolysiloxanes to the polydiorganosiloxanes of original claim 3. Claim 3 was canceled accordingly.

Claims 1, 2, 4-7, 9, 11 and 12 are pending in this application and were finally rejected in the office action dated 09-17-09.

The status of claims on appeal is as follows. Claims 1, 4, and 5 are previously presented. Claims 2, 6, 7, 9, 11 and 12 are original. Claims 1, 2, 4-7, 9, 11 and 12 are pending in this application and stand rejected.

Status of Amendments

An amendment under 37 C.F.R. 1.112 was submitted on 06-10-2008, claim 1 was amended to limit the organopolysiloxanes to the polydiorganosiloxanes of original claim 3. Claim 3 was canceled accordingly. These amendments were entered by the Examiner.

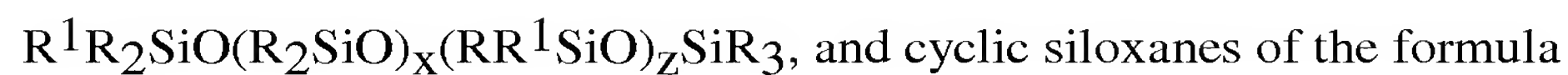
No amendments have been submitted subsequent to the Final Rejection dated 05-11-10. The appealed claims 1, 2, 4-7, 9, 11 and 12 are in the Claims Appendix of this brief.

Summary of the Claimed Subject Matter

Claim 1

This invention relates to a composition comprising;

(i) a hydrocarbyl functional organopolysiloxane having a formula selected from the group:



where

R is an alkyl, cycloalkyl, alkenyl, aralkyl, or an aryl group containing 1-20 carbon atoms;



x is 1-500, z is 1-40, m is 1-6, n is 1-6, and the sum of m + n is 3-12; and

(ii) at least one cosmetic ingredient, household care ingredient, or health care ingredient.

This claim is mapped to the specification as follows;

page 4, paragraph [0009], lines 4 - 12 and

page 5 line 6, paragraph [0016], to page 6, line 9.

Claim 11

Claim 11 is an independent claim directed to a specific embodiment of the present invention that reads;

A cosmetic product comprising the composition of claim 9.

As such independent claim 11 is related to a cosmetic product comprising;

(i) a hydrocarbyl functional organopolysiloxane having the formula



where R^1 is $-(\text{CH}_2)_3\text{OCH}_2\text{CH}_2\text{OH}$ and x is 10-20

(ii) at least one cosmetic ingredient, household care ingredient, or health care ingredient and a pigment.

This claim is mapped to the specification as follows;

page 4, paragraph [0010], lines 13 – 21, page 6 line 21-25, page 7 line 27 and 31.

Grounds of Rejection to be Reviewed on Appeal

Claims 1, 2, 5-7, 9 and 11 stand rejected under 35 U.S.C. §103(a) as being unpatentable by Candau (US 6,033,648).

Claims 1, 2, 5-7, 9, 11 and 12 stand rejected under 35 U.S.C. §103(a) as being unpatentable by Lemann et al. (US 6,541,017).

Argument

35 U.S.C. §103(a)

The Examiner rejected claims 1, 2, 5-7, 9 and 11 under 35 U.S.C. §103(a) as being unpatentable by Candau (US 6,033,648).

The Examiner rejected claims 1, 2, 5-7, 9, 11 and 12 as being unpatentable by Lemann et al. (US 6,541,017).

Appellant respectfully submits the 103 rejections to be improper for the reasons as detailed below.

Claims 1, 2, 5-7, 9 and 11 stand rejected under 35 U.S.C. §103(a)

as being unpatentable by Candau (US 6,033,648)

Claims 1, 2, 5-7, 9 and 11 stand rejected under 35 U.S.C. §103(a) as being unpatentable by Candau (US 6,033,648). This rejection was first asserted in the office action rejection dated 9-01-09 and maintained in a final rejection dated 05/11/2010. The Examiner's basis for the rejection is shown below.

Candau discloses tanning compositions comprising iron oxide nano-pigments (see Abstract), encompassing claims 9 and 11. The compositions also comprise a silicone emulsifier encompassing the hydrocarbyl functional organopolysiloxane compounds of the instant claims (col. 6, lines 39-62). These are preferred emulsifiers. The R groups of (II) of the reference encompass R¹ of the instant claims where R¹ is $-(CH_2)_3OCH_2CH_2OH$. The R group of the reference is $-(CH_2)_sO-(C_2H_4O)_t(C_3H_5O)_uR^1$ where s is 1 to 5, t is 1 to 100, u is 0 to 50 and R¹ is H, CH₃ or CH₂CH₃. These values encompass the corresponding group of the instant claims. The repeating silicone unit of the referenced structure ranges from 5 to 300, which encompasses the corresponding silicone unit of the instant claims having a repeating unit value of 1 to 500. The R² group of the reference is a C1-C3 alkyl or phenyl, encompassing the R group of the instant

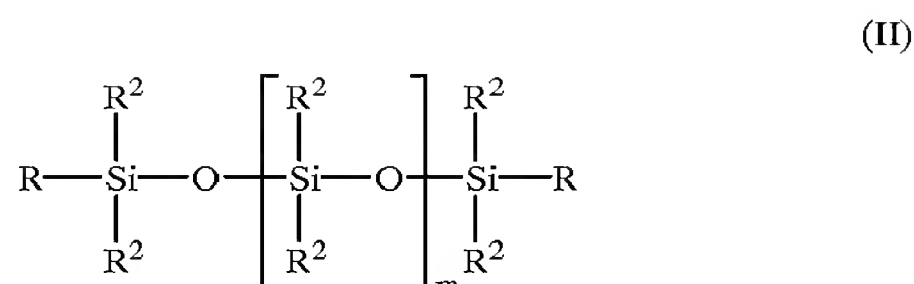
claims, which may be an alkyl group or aryl group containing 1-20 carbon atoms. The compositions are cosmetics and additionally comprise conventional cosmetic and/or dermatological adjuvants (col. 18, lines 49-59). The reference differs from the instant claims insofar as it does not disclose the exact end points for the number of repeating units recited in the instant claims.

The prior art does not disclose the exact claimed values, but does overlap: in such instances even a slight overlap in range establishes a *prima facie* case of obviousness. In re Peterson, 65 USPQ2d 1379, 1382 (Fed. Cir. 2003). The reference discloses the R group of the reference is $-(CH_2)_sO-(C_2H_4O)_t(C_3H_6O)_uR^1$ where s is 1 to 5, t is 1 to 100, u is 0 to 50 and R^1 is H, CH_3 or CH_2CH_3 , which corresponds to the R^1 group of the instant claims $(CH_2)_3OCH_2CH_2OH$ when s is 3, t is 1 and u is 0. The repeating silicone unit of the referenced structure ranges from 5 to 300 encompassing the corresponding silicone unit of the instant claims having a repeating unit value of 1 to 500. The R^2 group of the reference is a C1-C3 alkyl or phenyl, encompassing the R group of the instant claims, which may be an alkyl group or aryl group containing 1-20 carbon atoms. It would have been obvious for one of ordinary skill in the art to have used the compounds of the instant claims in the cosmetics of the reference consistent with the In re Peterson decision.

Appellant believes the 103 rejection based on Candau to be improper for the following reasons. The present claims are drawn to a composition comprising a hydrocarbyl functional organopolysiloxane. The hydrocarbyl group is defined as R^1 having the formula - $(CH_2)_3OCH_2CH_2OH$. The Candau reference discloses silicone polyether or silicone oxyalkylene substituted silicones where in all cases the oxyalkylene groups are described as being selected from a combination of EO ($-CH_2CH_2O-$) and PO ($-C_3H_6O-$) units. Appellant respectfully submits Candau at best disclose a chemical formula that represents a genus of the present hydrocarbyl functional organopolysiloxanes. Applicant submits that the 09/01/2009 103 rejection fails to follow the guidelines established in **MPEP 2144.08** for assessing obviousness of genus/sub-genus/species relationships.

Regarding the rejection based on Candau, Applicant reproduces below the sections believed to be relevant, as quoted by the Examiner. In particular, structure II is shown.

A silicone emulsifier which is very particularly preferred for inclusion in the compositions according to the invention is an oxyalkylene silicone substituted at the α - and ω -positions, having a linear structure, substituted at the two ends of the main chain by oxyalkylene groups bonded to the Si atoms via a hydrocarbon-comprising group. More particularly preferred are the silicones having the the following structural formula (II):



in which R is a radical $-(\text{CH}_2)_s\text{O}-(\text{C}_2\text{H}_4\text{O})_t(\text{C}_3\text{H}_6\text{O})_u\text{R}^1$ wherein R^1 is H, CH_3 or CH_2CH_3 , s is an integer ranging from 1 to 5, t ranges from 1 to 100 and u ranges from 0 to 50, with the proviso that the $(\text{C}_2\text{H}_4\text{O})$ and $(\text{C}_3\text{H}_6\text{O})$ structural units may be distributed randomly or in blocks, the R^2 radicals are each a C_1 - C_3 alkyl radical or a phenyl radical, and $5 \leq m \leq 300$.

The oxyalkylenated silicones substituted at the α - and ω -positions according to the present invention preferably have the formula (II) in which each of the R^2 radicals is a methyl radical, s ranges from 2 to 4; t ranges from 3 to 100; and m ranges from 50 to 200.

Appellant respectfully submits that in formula (II) of Candau, no less than 50,000 (50 x 1000) oxyalkylene species are represented in this formula, not including possibilities or variations for the R^1 endgroup (including these would increase the variations 3x to 15,000). Furthermore, Appellant notes the expressed teachings of Candau to “emulsifiers” and multiple oxyalkylene groups. In particular, Candau preferred structures have a minimum of 3 ethylene oxide units (t, or l as incorrectly shown in the structure, ranges from 3 to 100) . Thus, Appellant respectfully submits that one skilled in the art, upon reading Candau, would not immediately select the presently claimed siloxanes having the defined R^1 hydrocarbonyl group. Therefore, considering the size of the genus, and the expressed teachings of Candau, Appellant believes the present claims cannot be considered *prima facie* obvious in view of Candau.

Claims 1, 2, 5-7, 9, 11 and 12 stand rejected under 35 U.S.C. 103(a)

as being unpatentable by Lemann et al. (US 6,541,017)

Claims 1, 2, 5-7, 9, 11 and 12 stand rejected under 35 U.S.C. §103(a) as being unpatentable by Lemann et al. (US 6,541,017). This rejection was first asserted in the final rejection dated 9-17-09 and maintained in the 5-11-2010 final rejection. The Examiner's basis for the rejection is shown below

Lemann et al. disclose cosmetic compositions comprising at least one silicone oil and at least one pigment (see Abstract), encompassing claims 9 and 11. The compositions may be formulated into lipsticks (col. 7, lines 4-5). The compositions comprise olyalkylated silicones (col. 23, lines 5-50). The R groups of structure in col. 3 encompass R¹ of the instant claims where R¹ is $-(CH_2)_3OCH_2CH_2OH$. The R groups of the reference may be $-(CH_2)_pO(C_2H_5O)_x(C_3H_7O)_yR^1$ where p is 1 to 5, x is 1 to 100, y is 0 to 50 and R¹ is H, CH₃ or CH₂CH₃. These values encompass the corresponding group of the instant claims. The repeating silicone unit of the referenced structure ranges from 5 to 300, which encompasses the corresponding silicone unit of the instant claims having a repeating unit value of 1 to 500. The R² group of the reference is a C1-C3 alkyl or phenyl, encompassing the R group of the instant claims, which may be an alkyl group or aryl group containing 1-20 carbon atoms (col. 3, lines 1-20).

The reference differs from the instant claims *insofar* as it does not disclose the exact end points for the number of repeating units recited in the instant claims

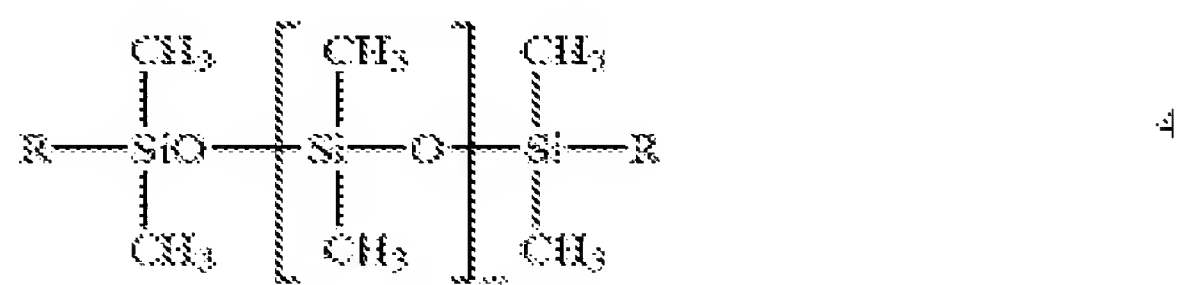
The prior art does not disclose the exact claimed values, but does overlap: in such instances even a slight overlap in range establishes a *prima facie* case of obviousness. *In re Peterson*, 65 USPQ2d 1379, 1382 (Fed. Cir. 2003). The reference discloses the R group of the reference is $-(CH_2)_pO(C_2H_5O)_x(C_3H_7O)_yR^1$ where p is 1 to 5, x is 1 to 100, y is 0 to 50 and R¹ is H, CH₃ or CH₂CH₃, which corresponds to the R¹ group of the instant claims $(CH_2)_3OCH_2CH_2OH$ when p is 3, x is 1 and y is 0. The repeating silicone unit of the referenced structure ranges from 5 to 300, which falls within the range of the corresponding silicone unit of the instant claims having a

repeating unit value of 1 to 500. The R^2 group of the reference is a C1-C3 alkyl or phenyl, encompassing the R group of the instant claims, which may be an alkyl group or aryl group containing 1-20 carbon atoms. It would have been obvious for one of ordinary skill in the art to have used the compounds of the instant claims in the cosmetics of the reference consistent with the In re Peterson decision.

Appellant believes the 103 rejection based on Lemann to be improper for the following reasons. The present claims are drawn to a composition comprising a hydrocarbyl functional organopolysiloxane. The hydrocarbyl group is defined as R^1 having the formula - $(CH_2)_3OCH_2CH_2OH$. The Lemann reference discloses silicone polyether or silicone oxyalkylene substituted silicones where in all cases the oxyalkylene groups are described as being selected from a combination of EO (-CH₂CH₂O-) and PO (-C₃H₆O-) units. Appellant respectfully submits Lemann at best discloses a chemical formula that represents a genus of the present hydrocarbyl functional organopolysiloxanes. Applicant submits that the 09/01/2009 103 rejection fails to follow the guidelines established in **MPEP 2144.08** for assessing obviousness of genus/sub-genus/species relationships.

Lemann's preferred structures are described in column 3 of reference, which is reproduced as follows;

In an even more preferable way, the composition according to the invention comprises the oxyalkylenated silicone substituted at the α and ω positions of following formula:



in which: 4

$m=100$,

$\text{R}=(\text{CH}_2)_3-\text{O}-(\text{C}_2\text{H}_4\text{O})_x(\text{C}_3\text{H}_6\text{O})_y-\text{CH}_3$, where x ranges from 3 to 100 and y ranges from 1 to 50, the ratio by weight of the $\text{C}_2\text{H}_4\text{O}$ number to the $\text{C}_3\text{H}_6\text{O}$ number being approximately 42/58 and the average molecular weight of R ranging from 800 to 1500.

Appellant respectfully submits that Lemann teaches preferred oxyalkylenated silicone having at least 3 ethylene oxide units, and further specifies ratios of ethylene oxide to propylene oxide to be 42/58. Such a ratio is impossible in the presently claimed siloxanes. Furthermore, Lemann teaches a preferred molecular weight considerably higher than the hydrocarbyl structures present on the hydrocarbyl functional organopolysiloxanes. Applicant respectfully submits that one skilled in the art, upon reading Lemann, would not immediately select the presently claimed siloxanes having the defined R^1 hydrocarbyl group. Therefore, considering the size of the genus, and the expressed teachings of Lemann, Appellant believes the present claims cannot be considered *prima facie* obvious in view of Lemann.

In the 05/11/2010 final rejection, the Examiner acknowledges that In re Peterson “relates to overlapping ranges in a different manner”, and further seems to acknowledge the formula of the instant claim and the cited references may be interpreted to encompass various species (second paragraph, page 5, as reproduced below; and last paragraph page 7 to top of page 8).

Although In re Peterson relates to overlapping ranges in a different manner, the instant case correlates to the decision insofar as the variables of the reference and the instant claims show some overlap and thus some of the species encompassed by the formula of the reference is also encompassed by the formula of the instant claims.

Applicant's believe the Examiner applies In re Peterson incorrectly in the instant case. Applicant respectfully submits “the variables of the reference, and the instant claims” are ranges within a chemical formula that are used to define a genus/sub-genus/species relationship which Applicant believes is completely different from defining a range of elements or components as discussed in In re Peterson. As such, Applicant believes the guidelines established in **MPEP 2144.08** for assessing obviousness of genus/sub-genus/species relationships should apply in the present application.

Application No 10/827,480
Appeal Brief dated 12/05/2010

Therefore, the appellants request that the rejection under 35 U.S.C. §103(a) be reversed and the claims allowed to issue. Based on the above arguments, Appellant respectfully requests that the Examiner's rejections of claims 1, 2, 4-7, 9, 11 and 12 in the present application be reversed and that the claims be allowed.

Respectfully Submitted,

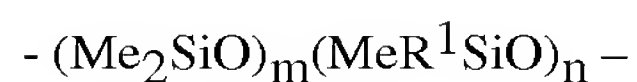
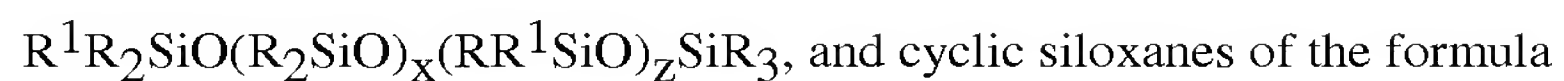
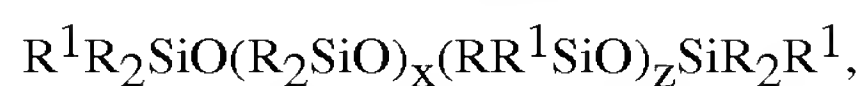
/Alan Zombeck/

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Claims Appendix

1. *(Rejected)* A composition comprising;

(i) a hydrocarbyl functional organopolysiloxane having a formula selected from the group:



where

R is an alkyl, cycloalkyl, alkenyl, aralkyl, or an aryl group containing 1-20 carbon atoms;

R^1 is $-(CH_2)_3OCH_2CH_2OH$;

x is 1-500, z is 1-40, m is 1-6, n is 1-6, and the sum of m + n is 3-12; and

(ii) at least one cosmetic ingredient, household care ingredient, or health care ingredient.

2. *(Rejected)* The composition of claim 1 wherein the hydrocarbyl functional organopolysiloxane contains 10 to 20 mass percent of the R^1 hydrocarbyl group.

3. *(Canceled)*

4. *(Rejected)* The composition of claim 1 wherein R is methyl.

5. *(Rejected)* The composition of claim 1 wherein the organopolysiloxane has the formula



where R^1 is $-(CH_2)_3OCH_2CH_2OH$ and x is 1-100.

6. *(Rejected)* The composition of claim 5 wherein x is 5-50.

7. *(Rejected)* The composition of claim 5 wherein x is 10-20.

8. *(Canceled)*

9. *(Rejected)* The composition according to claim 7 further comprising a pigment.

10. *(Canceled)*

11. *(Rejected)* A cosmetic product comprising the composition of claim 9.

12. *(Rejected)* The cosmetic product of claim 11 where the cosmetic product is a lipstick.

13. *(Withdrawn)* A method of treating hair or skin comprising applying to hair or skin the composition of claim 1.

14. *(Withdrawn)* A method of treating hair or skin comprising applying to hair or skin the product of claim 7.

Application No 10/827,480
Appeal Brief dated 12/05/2010

Evidence Appendix

None

Related Proceedings Appendix

None